

**BALD HEAD ISLAND SETTLEMENT MONITORING SURVEYS**  
**REPORT 11**  
**NOVEMBER 2006**

**Introduction**

The 11th set of monitoring surveys for the Settlement Agreement between the Village of Bald Head Island and the United States Army Corps of Engineers was taken in November 2006. The criteria to be used in examining the surveys is to be a continuous passage through Smith Island Channel, Baldhead Shoal Channel Reach 1 and Baldhead Shoal Channel Reach 2 with a minimum bottom width of 500 feet at a depth of -42 feet mean lower low water (mllw).

**Data**

The 10th set of monitoring surveys taken in September 2006 is displayed in Figure 1 and is labeled September 2006 Surveys. Figure 2 is a plot of surveys taken in November 2006 and Figure 3 is a difference plot between the September and November surveys. Figure 4 is a difference plot between the January 2005 and September 2006 surveys

A plot for Smith Island Channel of the navigable widths at a depth of -42 feet mllw (navigable depth) is shown in Figures 5 and 6. MLLW is 2 inches lower than mlw at Bald Head Island. Plots of the minimum channel cross sections at stations 7+00 and 25+00 are shown in Figures 7 and 8. The baselines for the cross section plots are shown in Figure 1.

A plot for Baldhead Shoal Channel Reach 1 of the navigable widths at a depth of -42 feet mllw is contained in Figures 9 and 10. Plots of the minimum channel cross sections in the vicinity of the spit at stations 22+00, 23+00, and 24+00 are shown in Figures 11, 12, and 13.

A plot for Baldhead Shoal Channel Reach 2 of the navigable widths at a depth of -42 feet mllw is contained in Figures 14 and 15. Plots of the minimum channel cross sections at stations 45+00 and 46+00 are shown in Figures 16 and 17.

**Conclusion**

The minimum navigable width at a depth of -42 feet mllw is less than 500 feet at Stations 20+00, 21+00, 22+00, 23+00, 24+00 and 34+00 in Baldhead Shoal Channel Reach 1. Points are greater than 500 feet in the other 2 channels.

# SEPTEMBER 2006 SURVEYS

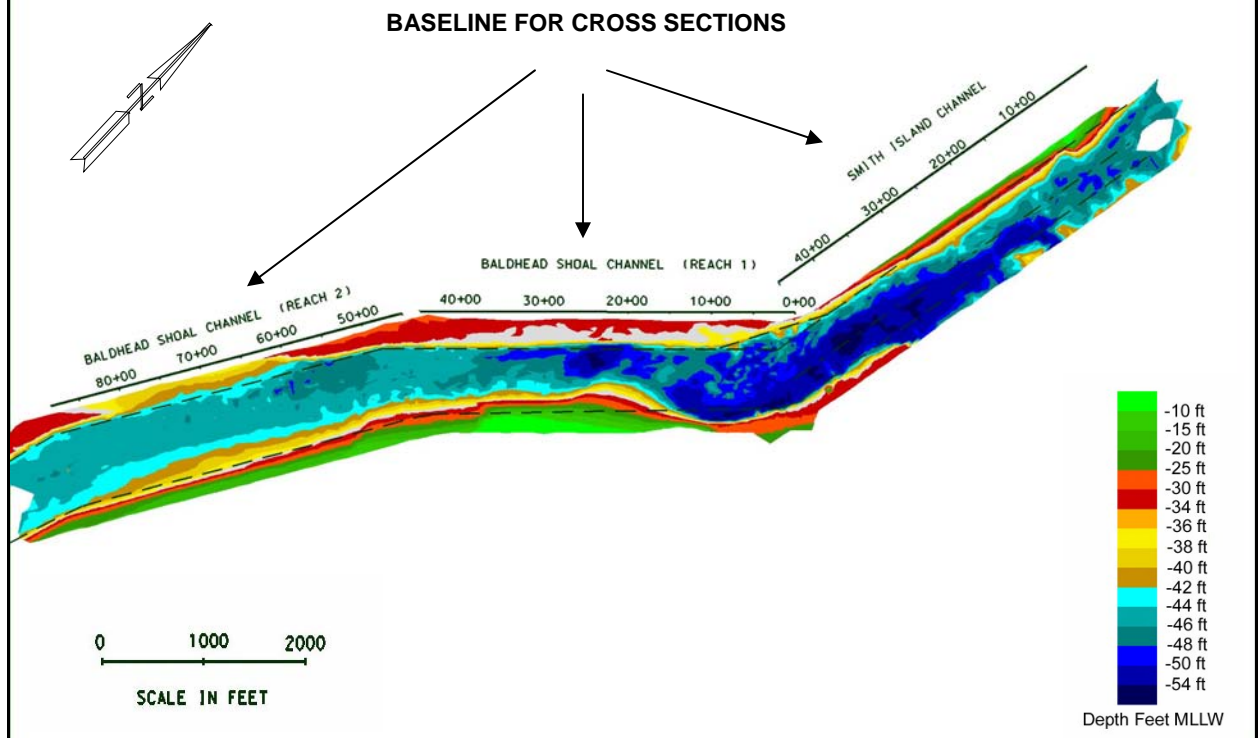


Figure 1 September 2006 Surveys

# NOVEMBER 2006 SURVEYS

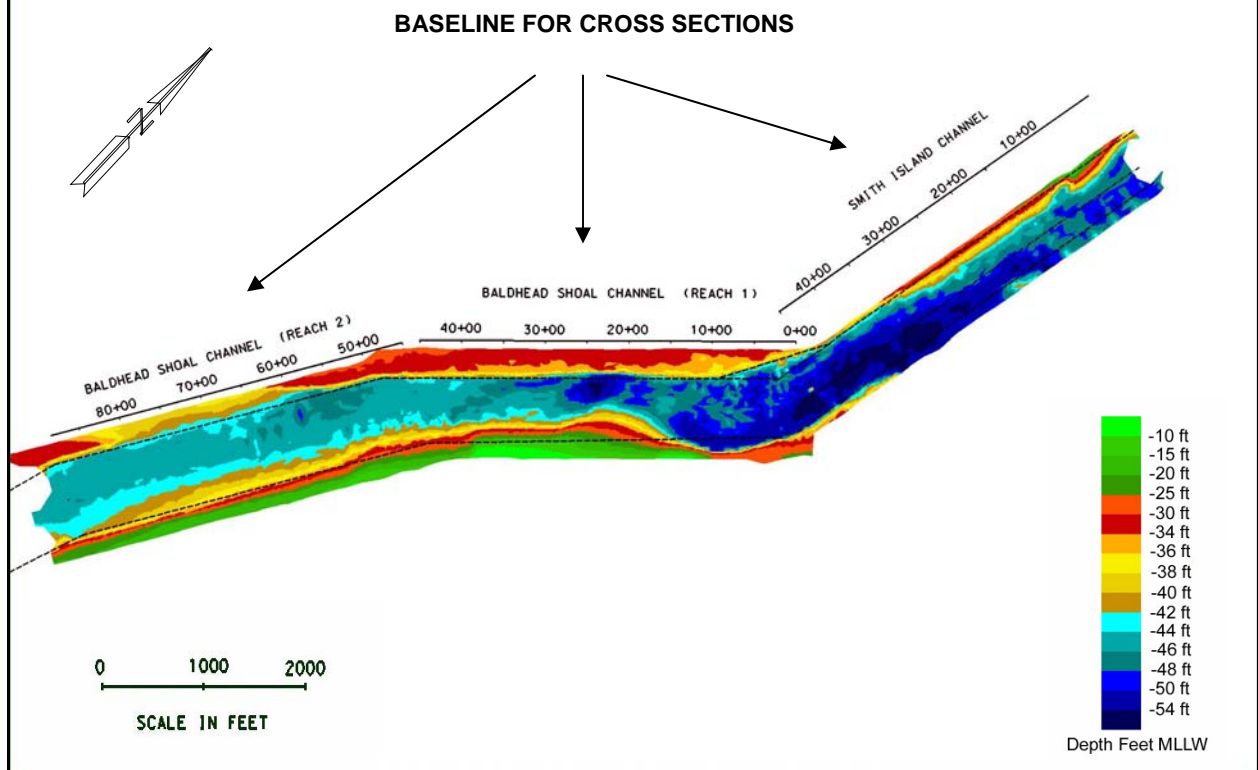


Figure 2 November 2006 Surveys

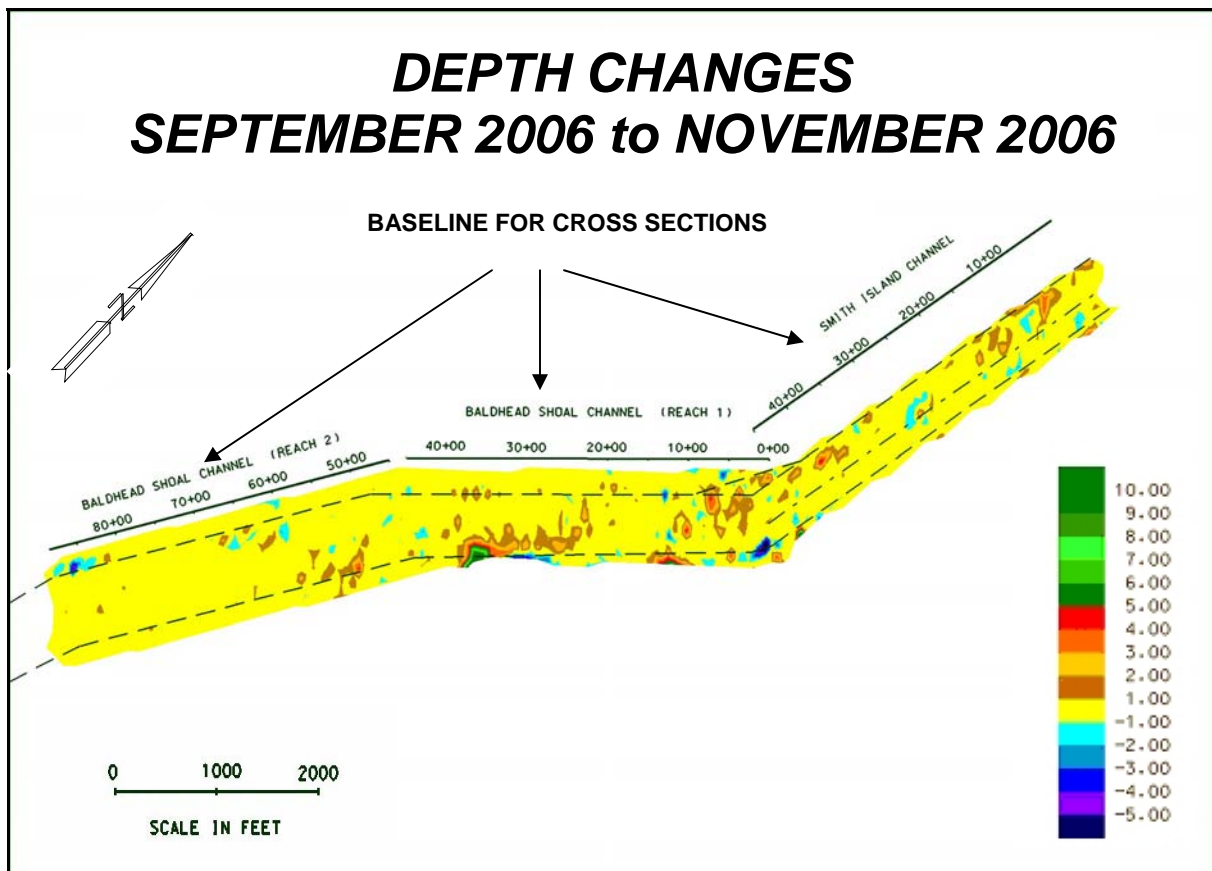


Figure 3 September 06 to November 06 Depth Changes

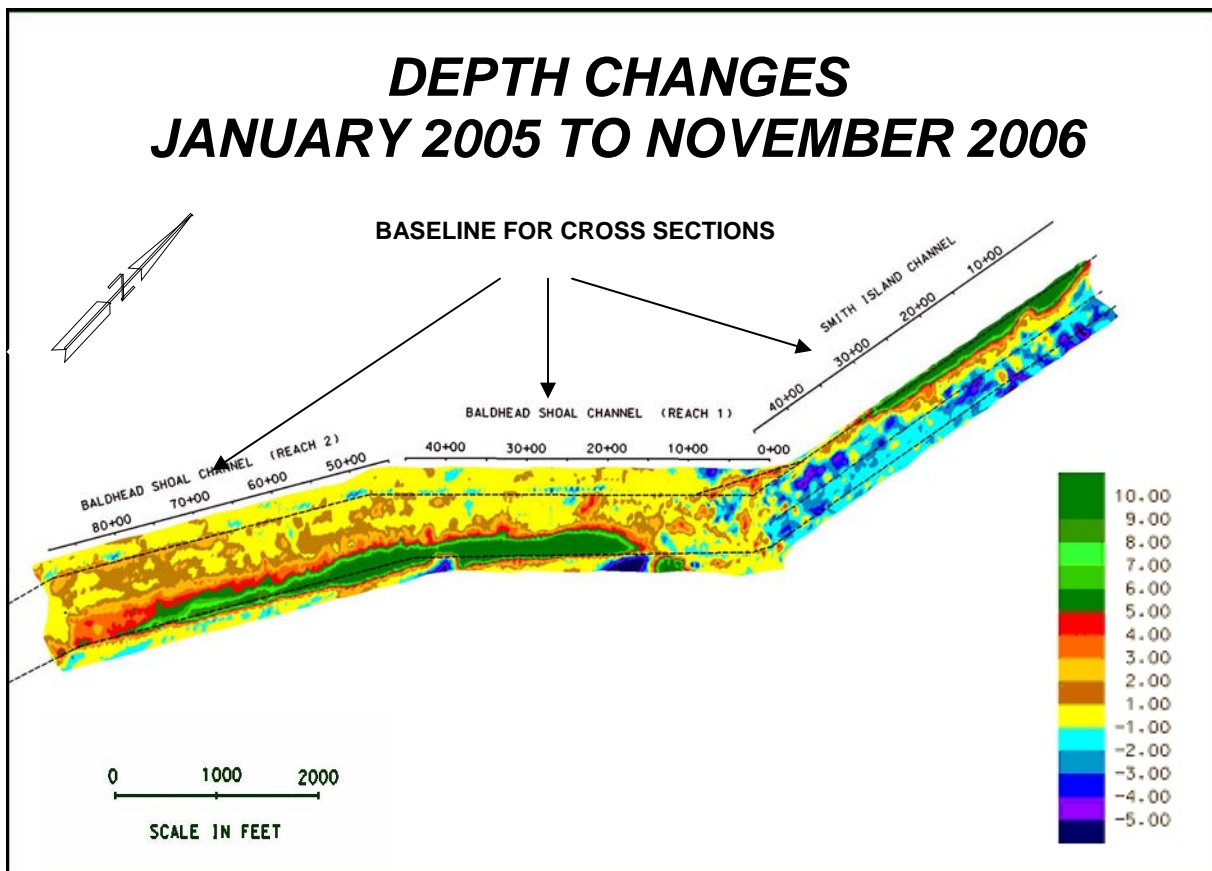
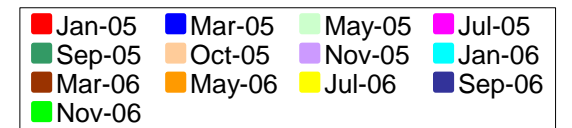


Figure 4 January 05 to November 06 Depth Changes

# SMITH ISLAND CHANNEL NAVIGABLE WIDTHS



Navigable widths are measured at -42 ft mllw

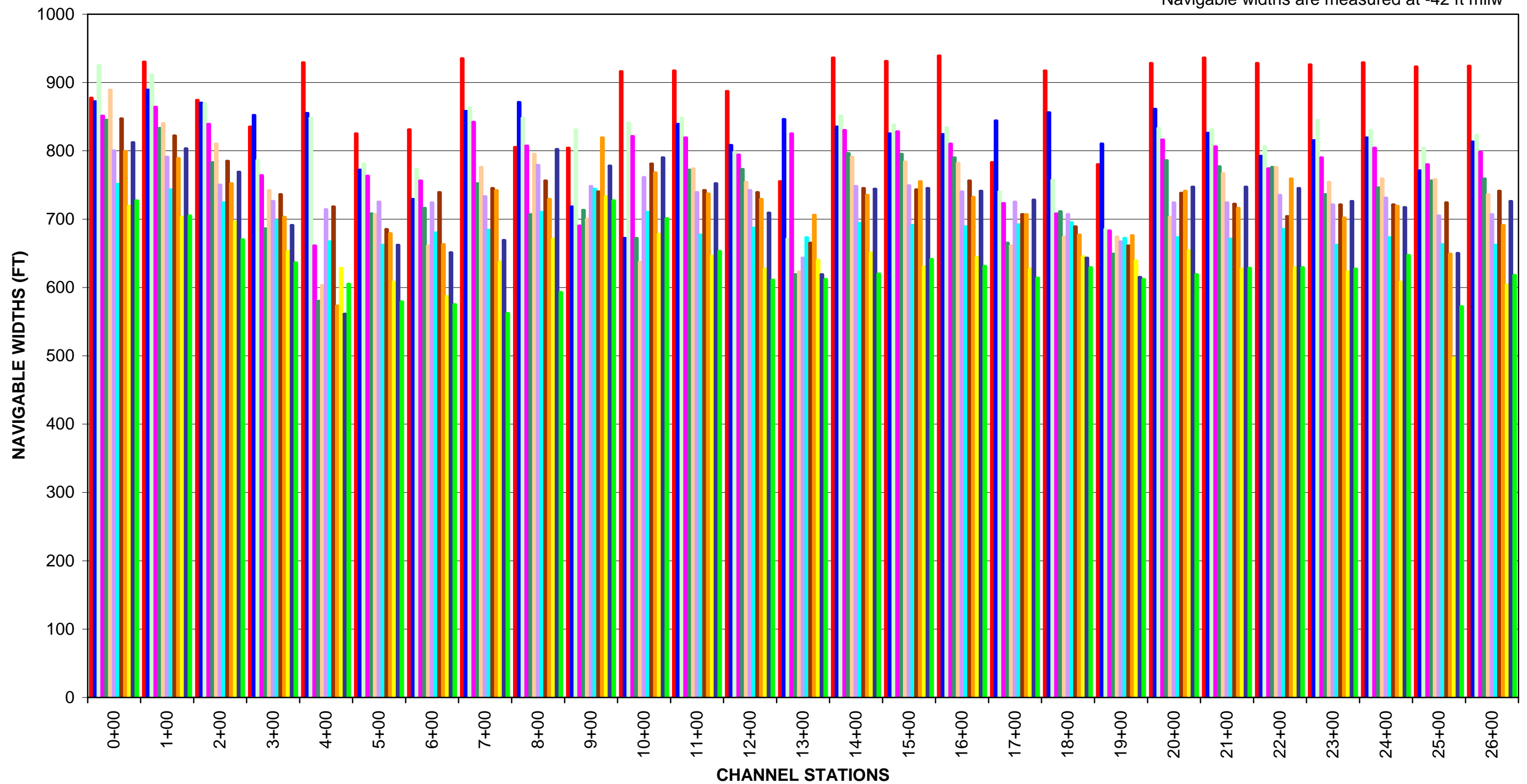


Figure 5 Smith Island Channel Navigable Widths – Stations 0+00 – 26+00

# SMITH ISLAND CHANNEL NAVIGABLE WIDTHS

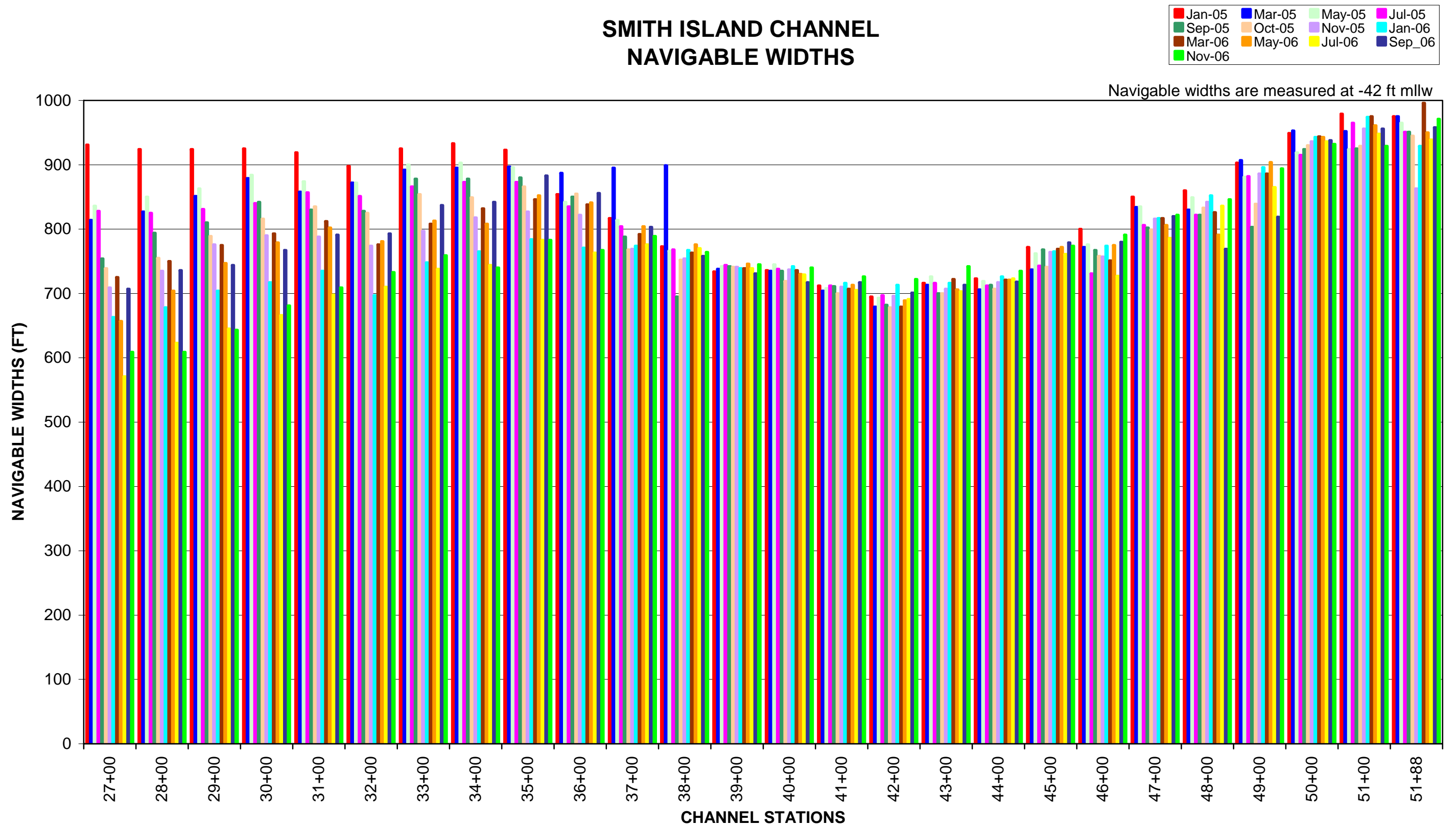
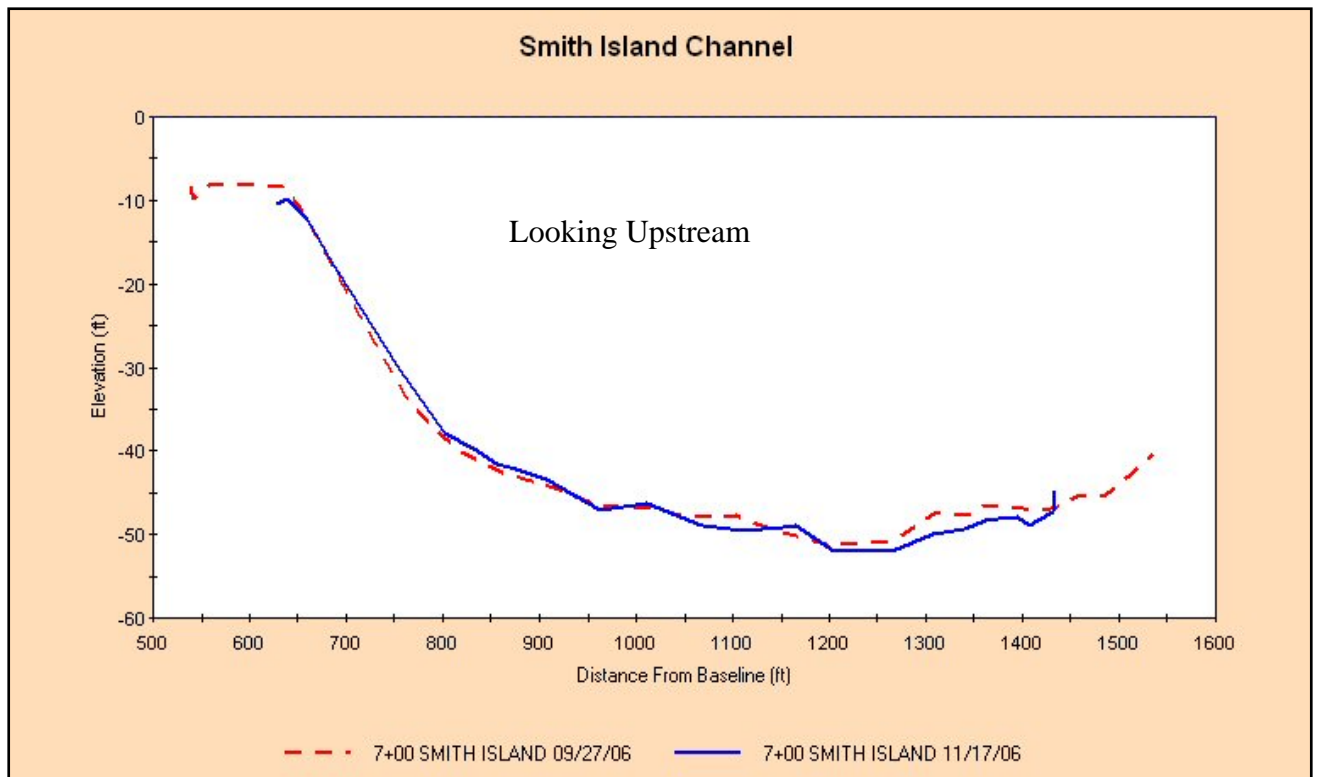
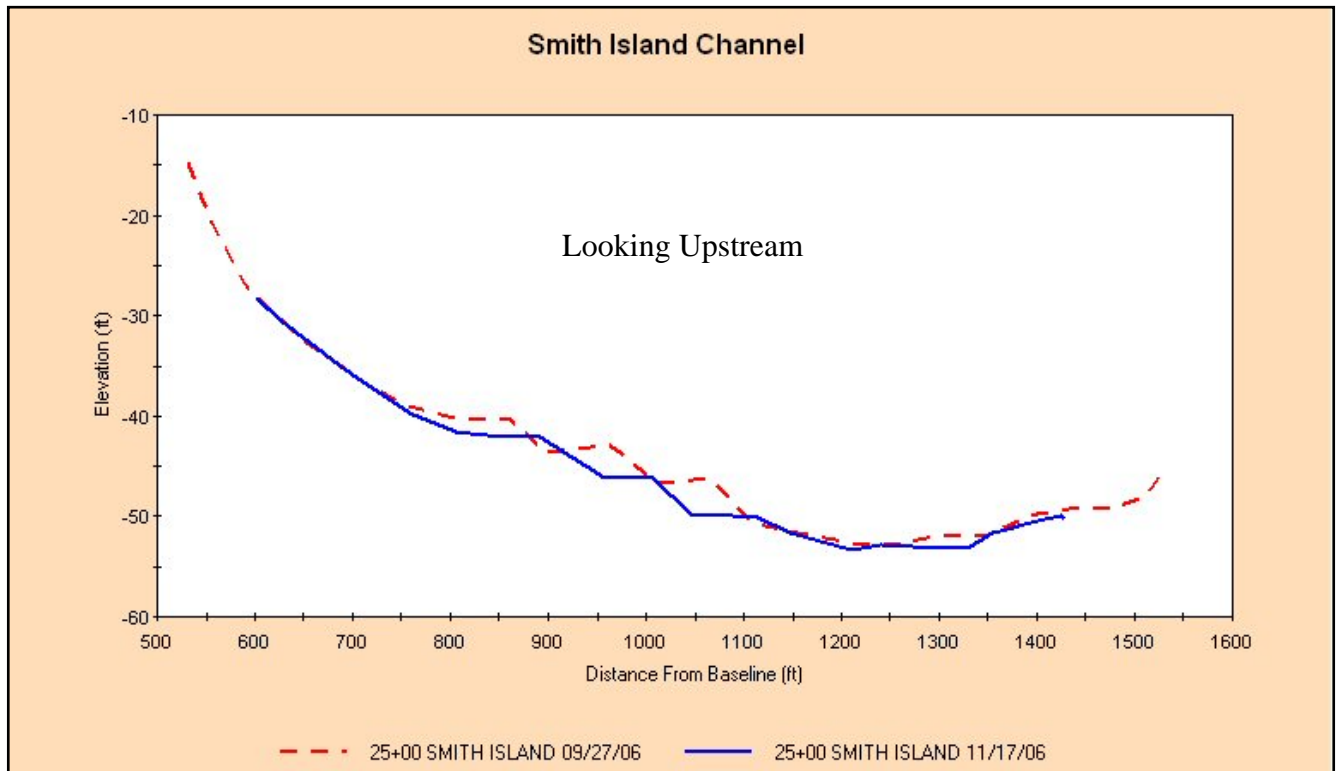


Figure 6 Smith Island Channel Navigable Widths – Stations 27+00 – 51+88



**Figure 7 Smith Island Station 7+00**



**Figure 8 Smith Island Station 25+00**

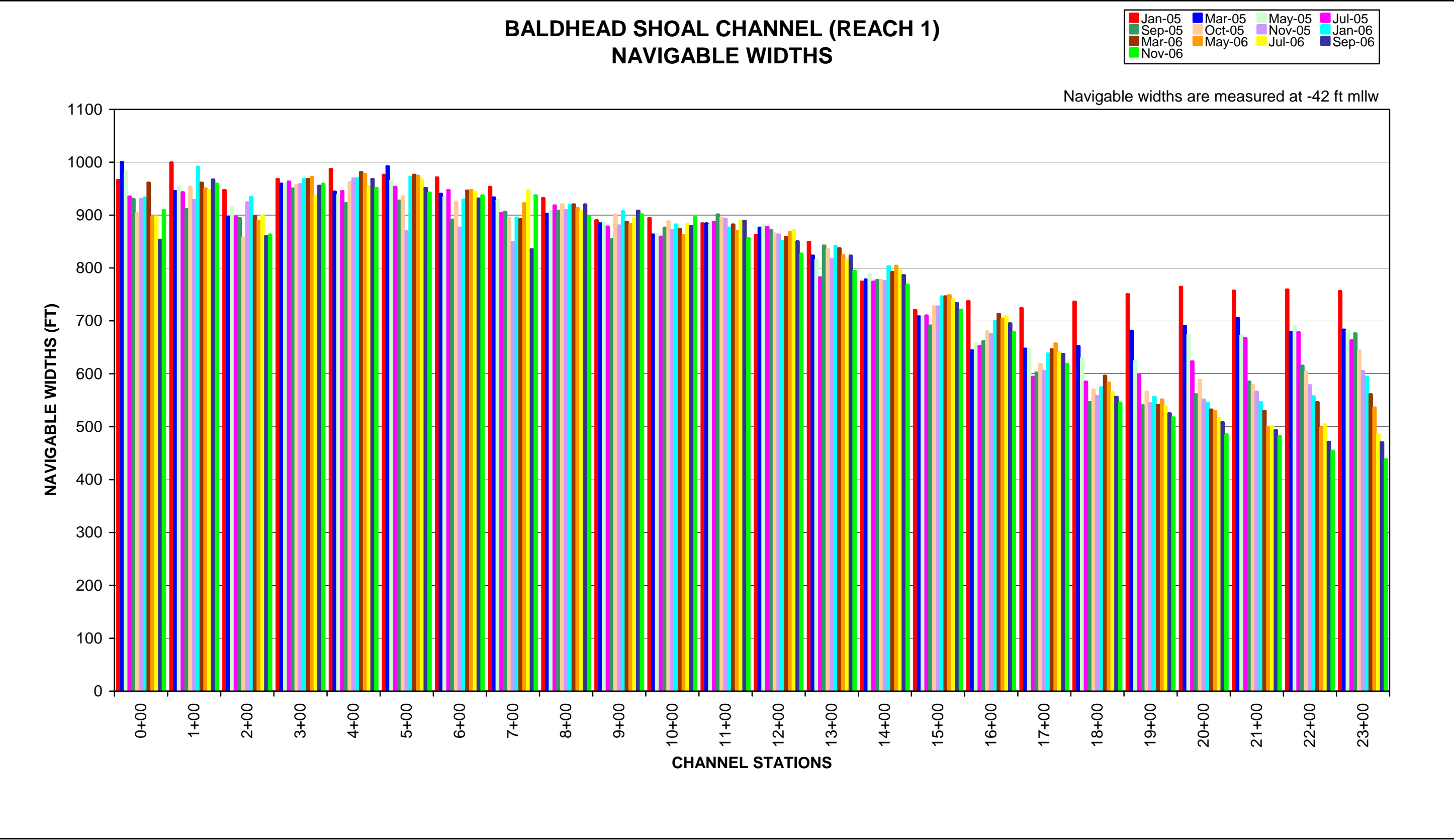


Figure 9 Baldhead Shoal Channel Reach 1 Navigable Widths – Stations 0+00 – 23+00

**BALDHEAD SHOAL CHANNEL (REACH 1)  
NAVIGABLE WIDTHS**

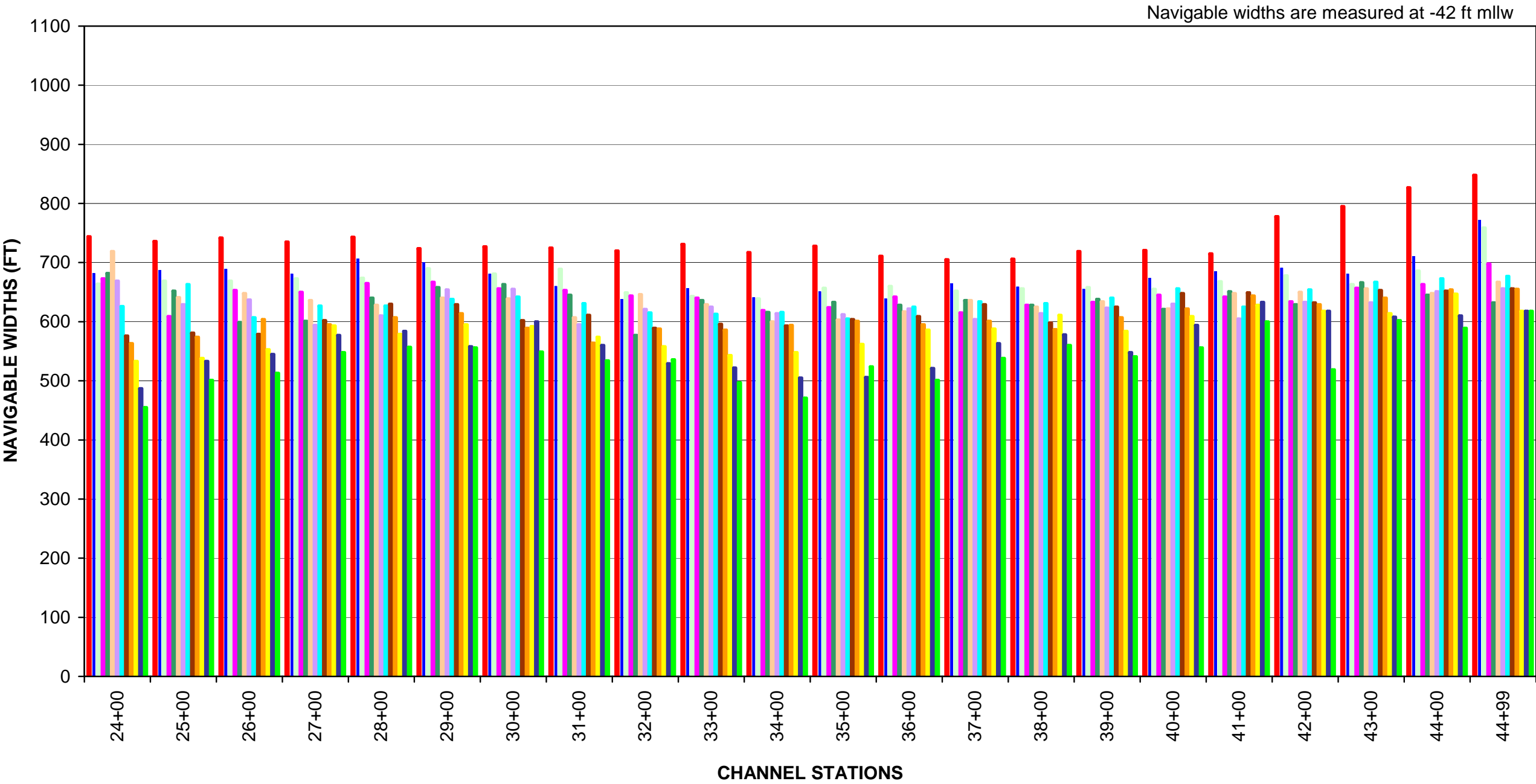
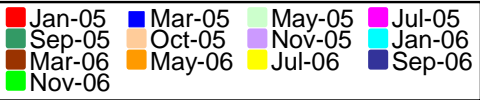
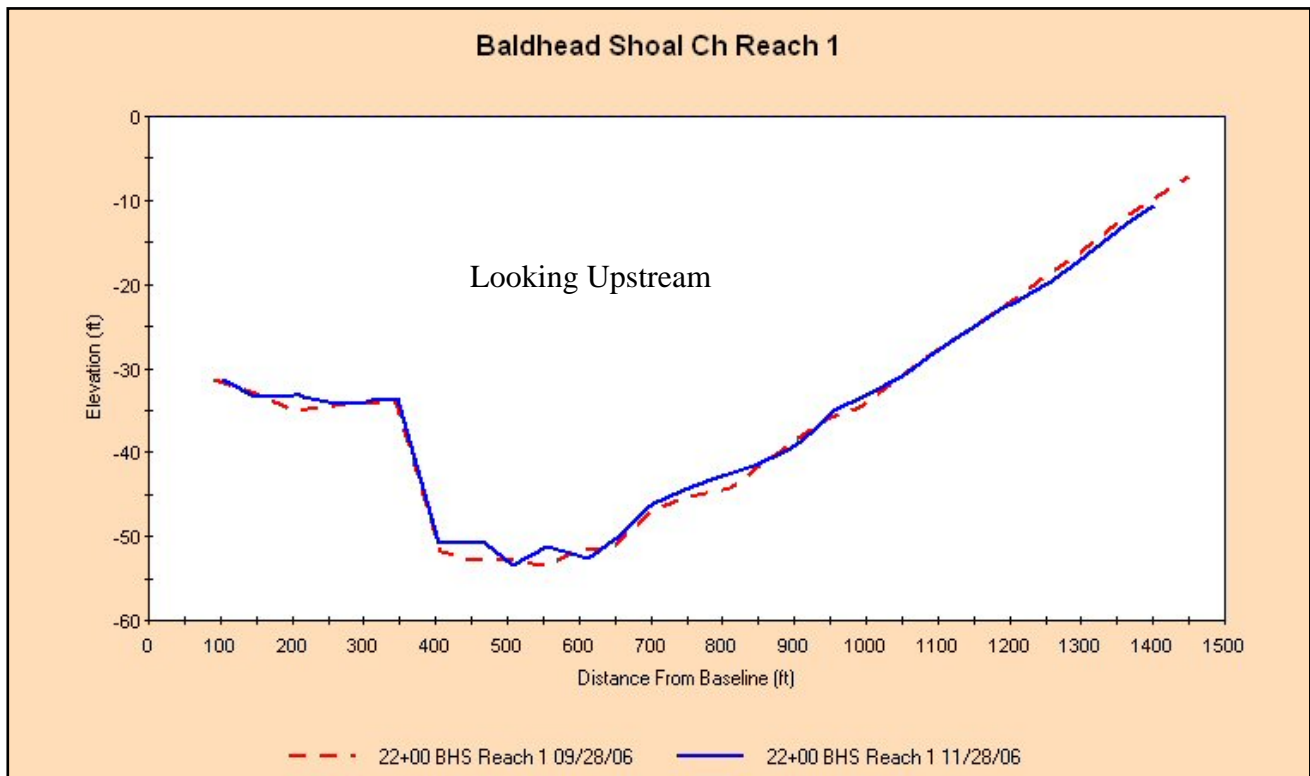
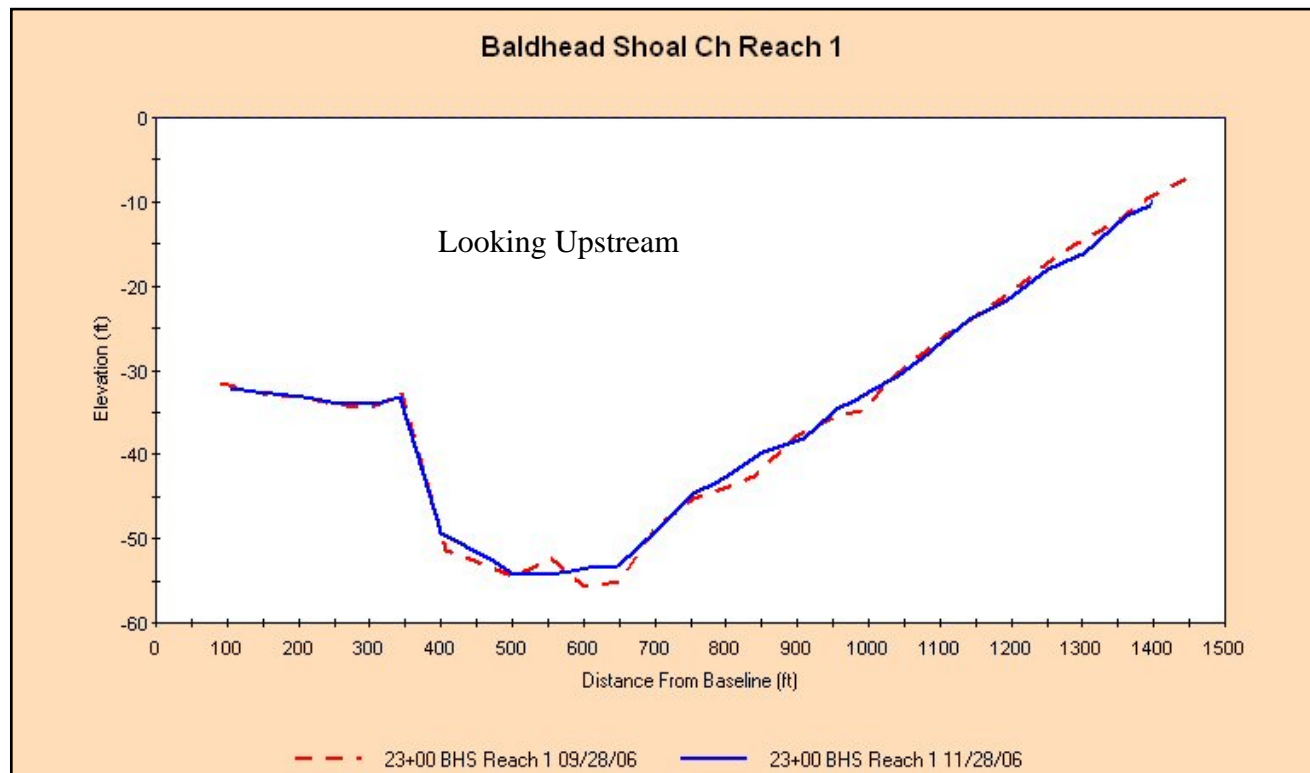


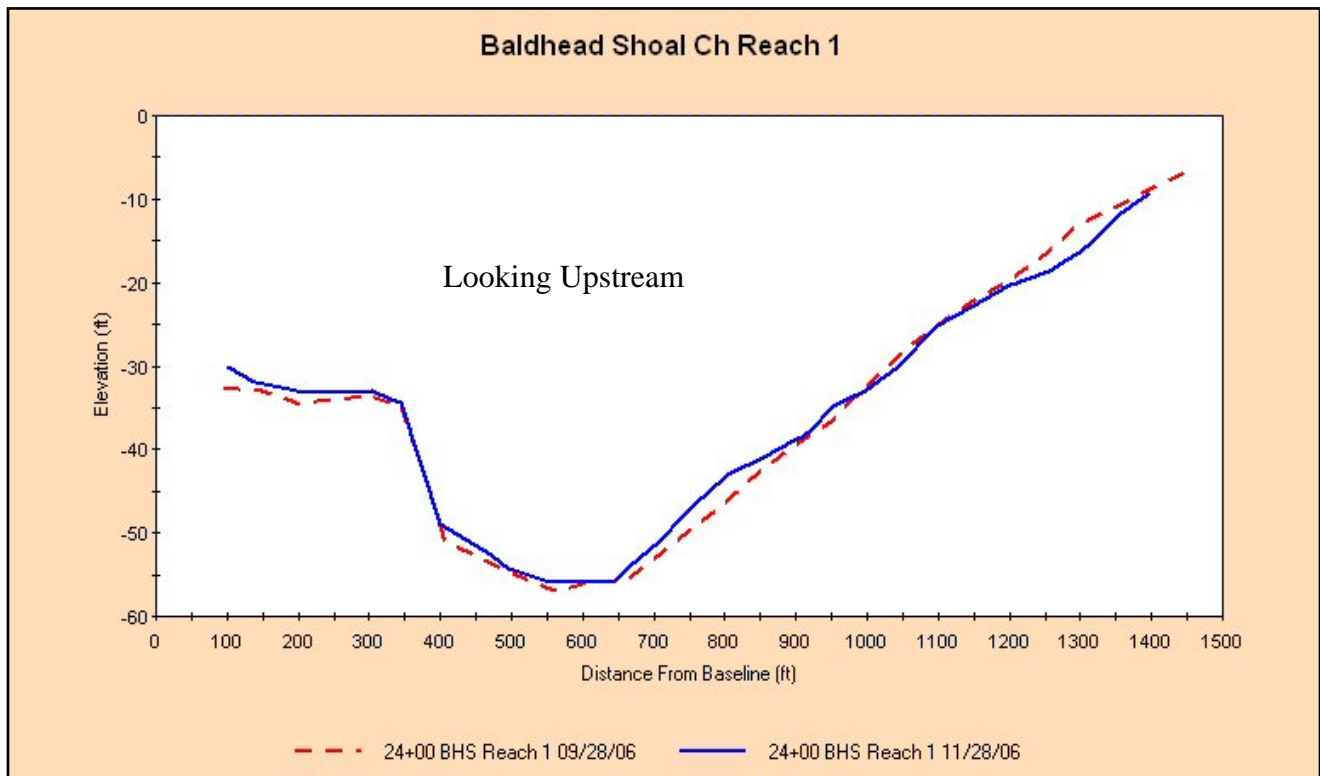
Figure 10 Baldhead Shoal Channel Reach 1 Navigable Widths – Stations 24+00 – 44+99



**Figure 11 Baldhead Shoal Station 22+00**

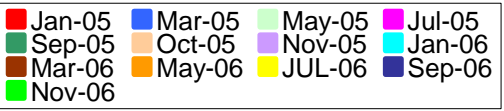


**Figure 12 Baldhead Shoal Station 23+00**



**Figure 13 Baldhead Shoal Station 24+00**

**BALDHEAD SHOAL CHANNEL (REACH 2)**  
**NAVIGABLE WIDTHS**



Navigable widths are measured at -42 ft mllw

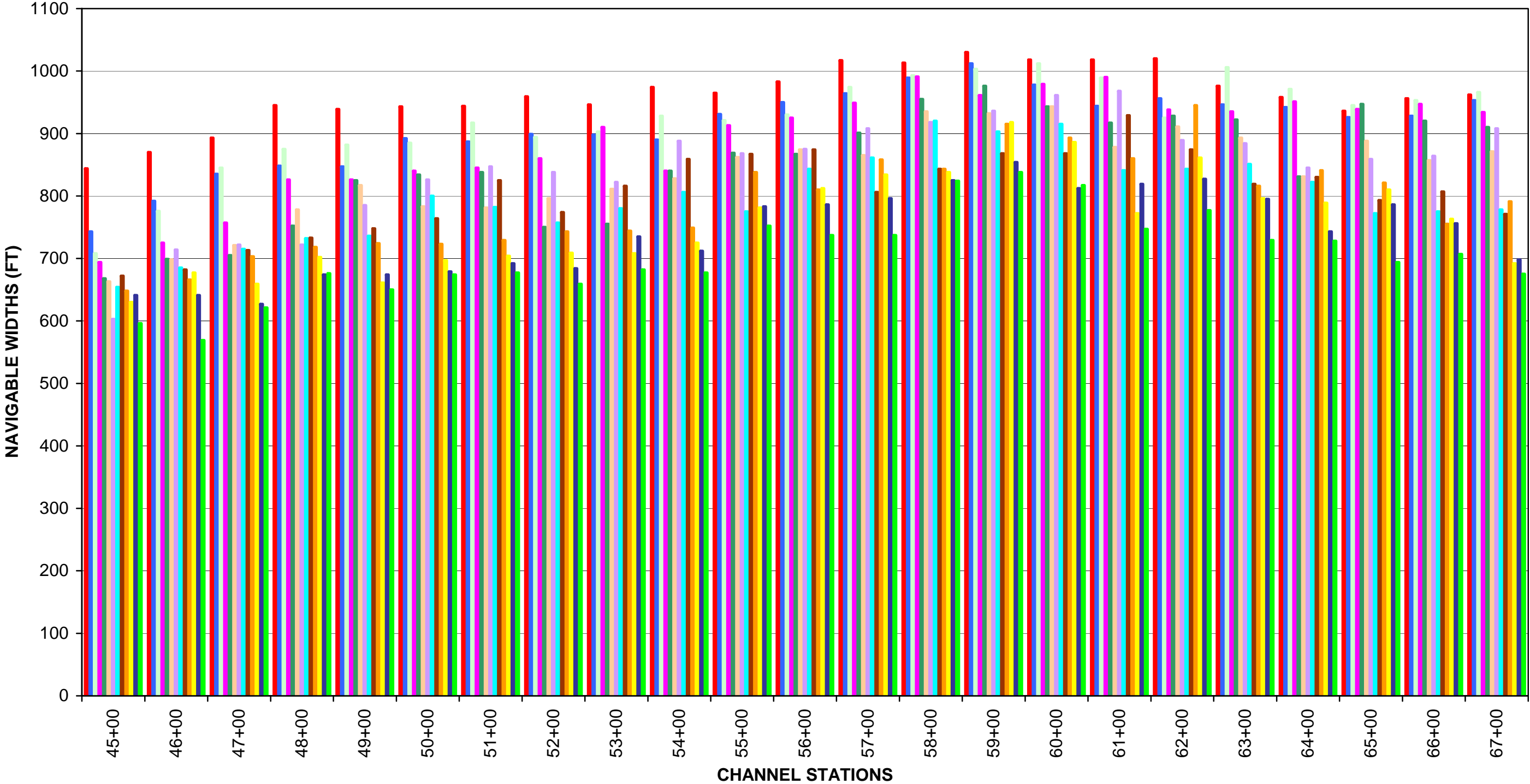


Figure 14 Baldhead Shoal Channel Reach 2 Navigable Widths – Stations 45+00 – 67+00

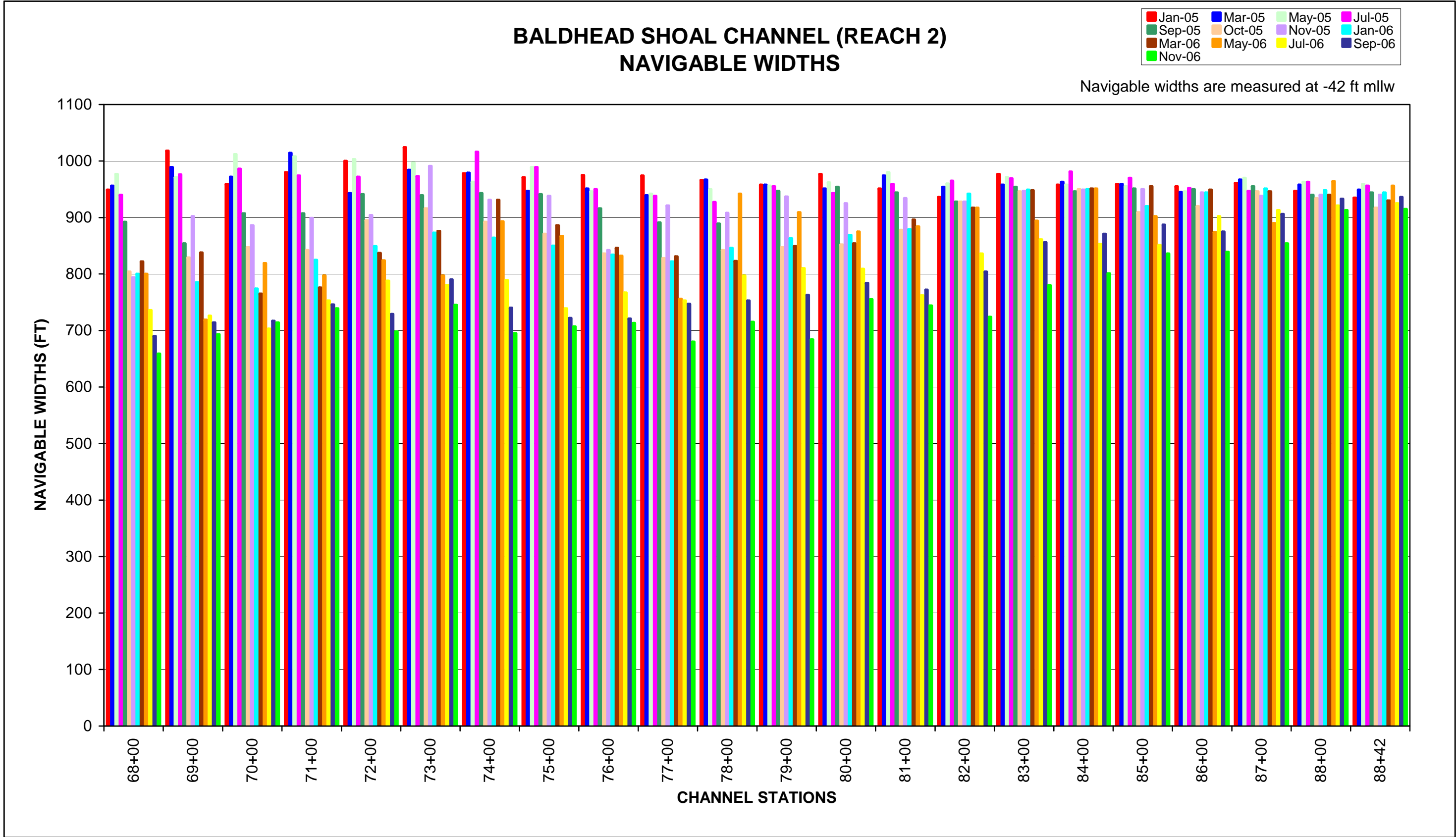
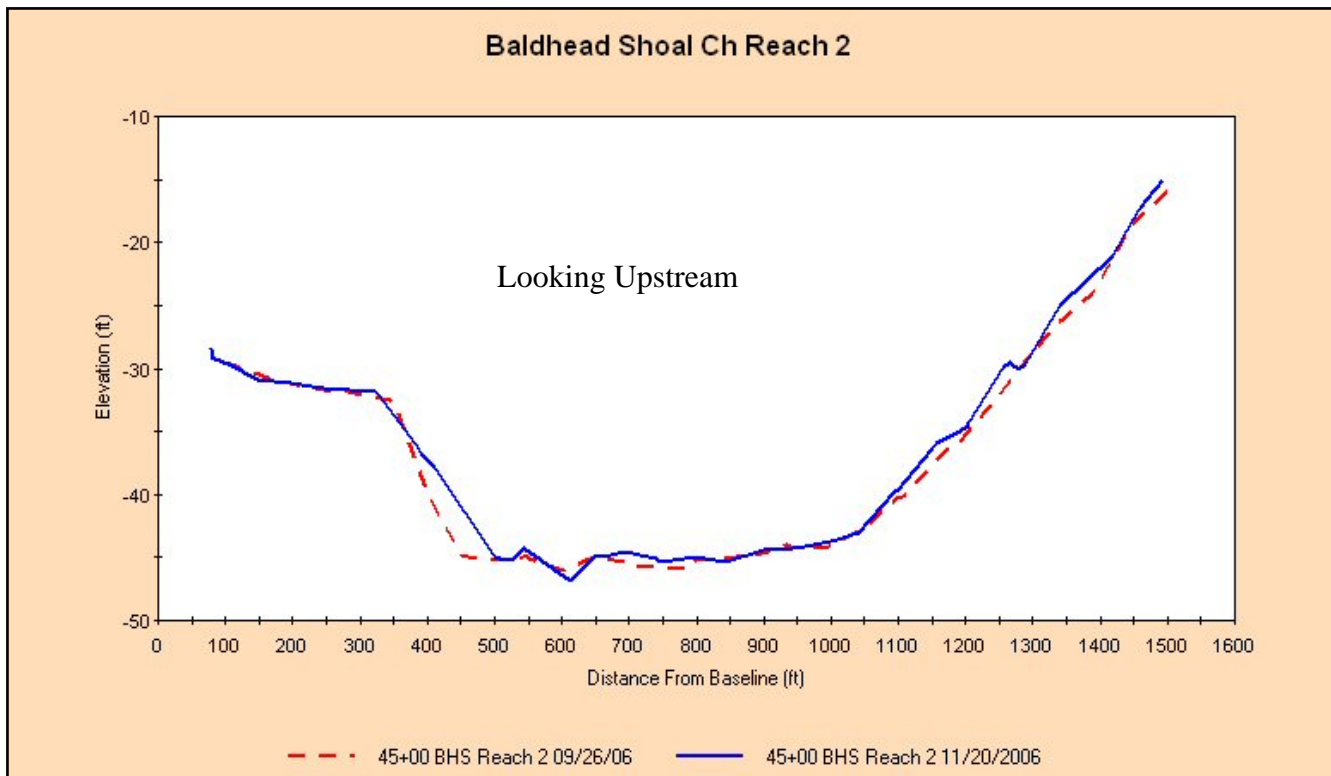
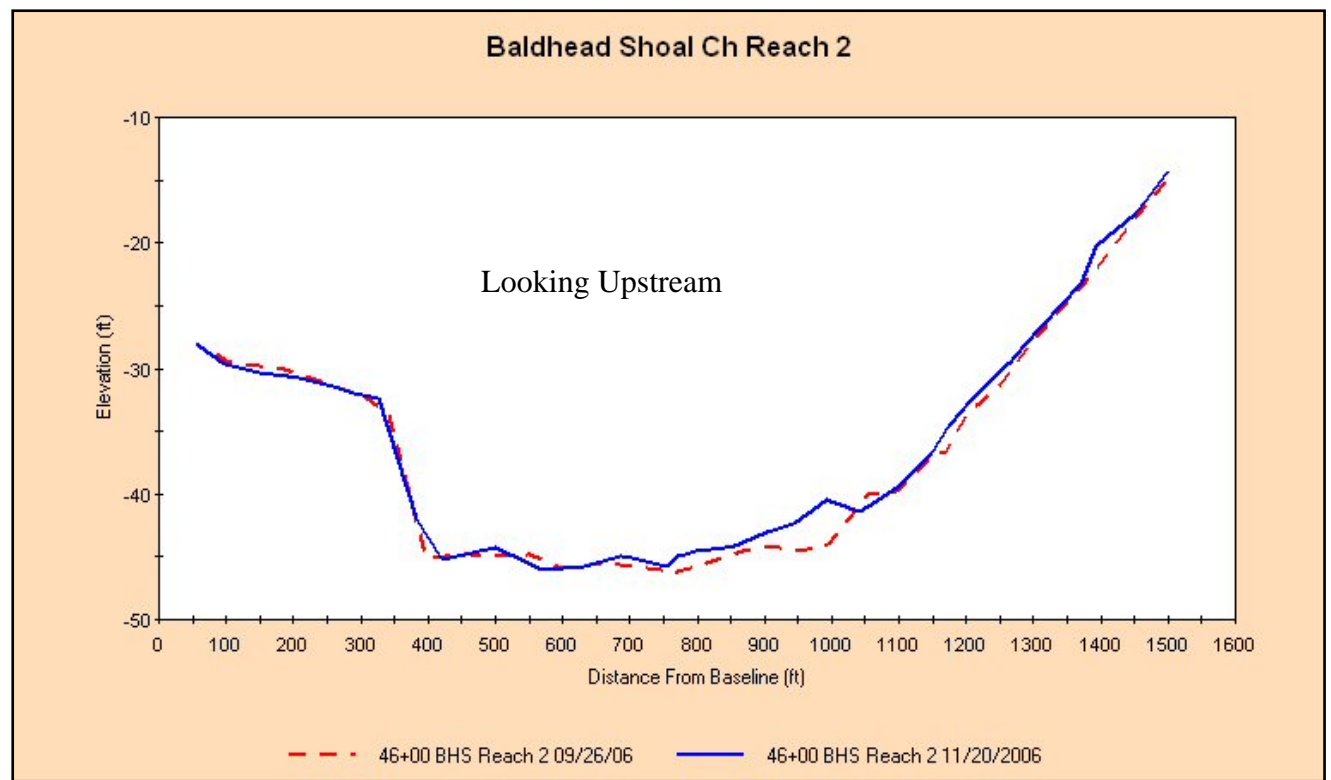


Figure 15 Baldhead Shoal Channel Reach 2 Navigable Widths – Stations 68+00 – 89+00



**Figure 16 Baldhead Shoal Station 45+00**



**Figure 17 Baldhead Shoal Station 46+00**